IN THE SPECIFICATION

Please amend the paragraph beginning at page 3, line 20, as follows:

Namely, the apparatus for detecting a different kind of object among objects using a plane spectrometer ~~according to Claim 1 with respect to the present invention is characterized in including~~ includes a conveying means for conveying a plurality of objects, a irradiating means for radiating near-infrared rays to the plurality of objects to be conveyed by means of the conveying means, a plane spectrometer that performs plane spectroscopy for a reflected light of the near-infrared rays reflected from the plurality of objects, to which the near-infrared rays are irradiated with the irradiating means, an imaging means for converting a plane spectrogram of the reflected light produced through the plane spectrometer into an electric signal by means of a near-infrared ray camera, and an analyzing means for detecting a different kind of object from the plurality of objects using a method of main component analysis upon obtaining spectral data of the reflected light by means of analyzing the electric signal obtained with the imaging means.

Please amend the paragraph beginning at page 4, line 13, as follows:

~~In Claim 2 with respect to the present invention, the~~ The analyzing means is configured to perform a wavelength axis averaging processing for averaging spectral data in a direction of the wavelength axis; an interpolation processing for interpolating the spectral data using Lagrangian secondary interpolation; a measuring position optimization processing for detecting a center position of the object by means of detecting an edge of the object upon accumulating the spectral data in a direction of a spatial axis; a spatial axis averaging

processing for obtaining an average value of each of the wavelengths at a plurality of points

in the vicinity of the center position of the object detected by means of the measuring position

optimization processing; a differentiation processing for performing a first differentiation or a

second differentiation for the spectral data; a main component score calculation processing

for calculating the main component score by means of calculating previously obtained

loading vector data and the spectral data obtained from the above-listed processes; and a

determination processing for determining whether to be the a different kind of object or the

same kind of object on the basis of the calculated main component score.

Please amend the paragraph beginning at page 5, line 8, as follows:

~~In Claim 3 with respect to the present invention, the~~ The wavelength axis averaging

processing of the analyzing means is configured to perform at least any of a preprocessing for

averaging the spectral data; a preprocessing for standardizing the spectral data on the basis of

a ratio of the spectral data to a predetermined value; a preprocessing for standardizing the

spectral data on the basis of a difference between the spectral data and a predetermined data;

or the wavelength axis averaging processing for forming a moving average of the spectral

data in the direction of the wavelength axis.

Please amend the paragraph beginning at page 5, line 19, as follows:

~~In Claim 4 with respect to the present invention, the~~ The analyzing means is

configured to perform a conversion processing for smoothing the spectral data.

Please amend the paragraph beginning at page 5, line 22, as follows:

~~In Claim 5 with respect to the present invention, the~~ The analyzing means is <u>also</u>

configured to perform a correction processing for the spectral data by means of MSC

(Multiplicative scatter correction) method.

Please amend the paragraph beginning at page 5, line 26, as follows:

~~The apparatus according to Claim 6 with respect to the present invention is~~

~~characterized in that the~~ The analyzing means is <u>also</u> configured to detect abnormality of the

object in a case that the edge exceeding a predetermined threshold cannot be detected in the

measuring position optimization processing for detecting the center position of the object by

means of detecting the edge of the object upon accumulating the spectral data in the direction

of the spatial axis.

Please amend the paragraph beginning at page 6, line 11, as follows:

~~In the apparatus according to Claim 7~~ <u>Further,</u> the analyzing means is configured to

perform the main component analysis for the object at each of the lines being conveyed in

multiple lines, using the loading vector data created at each of the lines.

Please amend the paragraph beginning at page 6, line 16, as follows:

~~In the apparatus according to Claim 8~~ <u>In addition,</u> the analyzing means is configured

to perform the main component analysis selecting only data of a predetermined wavelength

band in the spectral data.

Please amend the paragraph beginning at page 6, line 20, as follows:

~~In the apparatus according to Claim 9, the~~ The analyzing means is also configured to

perform a conditional branching processing while repeating for two or more times upon

changing a condition of the main component analysis.

Please amend the paragraph beginning at page 6, line 24, as follows:

~~In the apparatus according to Claim 10, the~~ The imaging means is a rolling-type near-

infrared ray camera, the rolling-type near-infrared ray camera having a camera rotating

mechanism whereby the near-infrared ray camera can be rotated around a shaft in parallel

with a light axis thereof.

Please amend the paragraph beginning at page 7, line 3, as follows:

~~In the apparatus according to Claim 11, the~~ The conveying means comprises a sheet-

like conveying device for conveying the objects, the sheet-like conveying device having a

flap-inhibitor for preventing a flap of the object by means of pressing a peripheral portion of

the sheet-like conveying device around the object to be conveyed.

Please amend the paragraph beginning at page 7, line 9, as follows:

In the apparatus for detecting a different kind of object among objects using a plane

spectrometer ~~according to Claims 12~~, a light volume compensator having a predetermined

reflectance property is disposed at a position within a visual field of the imaging means.

Please amend the paragraph beginning at page 7, line 21, as follows:

~~According to the inventions of Claims 1 through 5 of the present invention, a~~ A high

resolution performance is obtained by means of using a plane spectrometer and performing

processes, such as data interpolation, smoothing, and the like with characteristic algorithm.

Further, a component analysis for a plurality of points across a wide area becomes to be able

to be stably performed in line. Furthermore, since a spectroscopy for many points of the

object being conveyed in multiple lines can be performed at the same time using one set of

imaging means, space saving can be intended. In addition, since an attaching structure to a

path for conveying the object to be measured can be formed extremely simple, a different

kind of object detecting apparatus using a plane spectrometer can be easily attached to

various conveying paths. Further, correction of imaging characteristic is completed at one

time by means of using the one set of the imaging means.

Please amend the paragraph beginning at page 8, line 16, as follows:

~~Further, according to the invention claimed in Claim 6, since~~ Since the

aforementioned analyzing means is configured to detect abnormality of the object in a case

that the edge exceeding a predetermined threshold cannot be detected in the aforementioned

measuring position optimization processing of the analyzing means, a case that a shape is

abnormal, or a case that the object does not exist at a predetermined position, for example,

missing tablets can be detected.

Please amend the paragraph beginning at page 8, line 25, as follows:

~~According to the invention claimed in Claim 7, since~~ <u>Since</u> the analyzing means is configured to perform the main component analysis for the object at each of the lines being conveyed in multiple lines, using the loading vector data created at each of the lines, the influence of the difference between the conditions such as the difference between the light volumes, or the like due to the difference between the lines in a case of conveying in multiple lines can be eliminated.

Please amend the paragraph beginning at page 9, line 7, as follows:

~~According to the invention claimed in Claim 8~~ <u>Further,</u> since the analyzing means is configured to perform the main component analysis selecting only data of a predetermined wavelength band in the spectral data, accurate analysis can be performed by little amount of the data, and the load of calculating processing is decreased resulting in being capable of high speed processing.

Please amend the paragraph beginning at page 9, line 14, as follows:

~~According to the invention claimed in Claim 9, since~~ <u>Since</u> the analyzing means is configured to perform a conditional branching processing while repeating for two or more times upon changing a condition of the main component analysis, even when a group, in which discrimination cannot be performed by means of the analysis in one condition, exists, the discrimination can be performed.

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Please amend the paragraph beginning at page 9, line 21, as follows:

~~According to the invention claimed in Claim 10~~ In addition, since the imaging means is a rolling-type near-infrared ray camera, the rolling-type near-infrared ray camera comprising an adjusting device for adjusting by rotating a shaft thereof, a deviation of a data bringing in timing can be compensated even in the case of the rolling-type near-infrared ray camera. In a case that the imaging means employed is not the rolling-type near-infrared ray camera, the adjusting device is not necessary.

Please amend the paragraph beginning at page 10, line 3, as follows:

~~According to the invention claimed in Claim 11, since~~ Since the aforementioned conveying means comprises a sheet-like conveying device for conveying the objects, the sheet-like conveying device having a flap-inhibitor for preventing a flap of the object, it becomes possible to prevent a flap of the object to be conveyed by means of pressing a peripheral portion of the sheet-like conveying device around the object to be conveyed, and thereby it becomes possible to perform an accurate analysis. In a case that the object does not have a sheet-like shape, the flutter-preventing device is not necessary.

Please amend the paragraph beginning at page 10, line 14, as follows:

~~According to the invention claimed in Claim 12~~ Furthemore, since a light volume compensator having a predetermined reflectance property is disposed in the vicinity of the object, a variation of the characteristics due to a change of properties with time, or the like can be compensated by means of controlling a light source or the imaging means in a manner

such that the data obtained from the aforementioned light volume compensator is allowed to

become a predetermined value.

Please amend the abstract as in the following page: